WHAT IS CLAIMED IS:

1. A semiconductor material produced by a process comprising the step of:

melting a noncrystal semiconductor containing therein carbon, nitrogen and oxygen at a concentration of 5 x 10^{19} atoms$\cdot$cm^{-3} or less respectively by irradiating said noncrystal semiconductor with a laser beam or a light equivalent to the laser beam to crystallize said noncrystal semiconductor,

wherein the crystallized semiconductor has a peak of intensity of scattered light at a Raman shift of 512 cm^{-1} or more in Raman spectroscopy thereof.

2. The semiconductor material of claim 1 wherein said light comprises an excimer laser pulse.

3. The semiconductor material of claim 1 wherein said process further comprises the step of subjecting the semiconductor to thermal treatment in an atmosphere comprising hydrogen after the irradiation.

4. The semiconductor material of claim 1 wherein the irradiation is carried out by excimer laser ~~or YAG laser~~.

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5. A method for forming a semiconductor material comprising the steps of:

forming on a surface a film comprising a noncrystal semiconductor and containing therein carbon, nitrogen and oxygen at a concentration of 5 x 10^{19} atoms$\cdot$cm^{-3} or less respectively; and

melting said noncrystal semiconductor by irradiating said film with a laser beam or a light equivalent to the laser beam to crystallize the noncrystal semiconductor into a

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crystallized semiconductor having a peak of intensity of scattered light at a Raman shift of 512 cm^{-1} or more in Raman spectroscopy thereof.

6. The method of claim 5 further comprising the step of subjecting the film to thermal treatment in an atmosphere comprising hydrogen after said melting step.

7. The method of claim 5 wherein said light comprises an excimer laser pulse.

8. The method of claim 5 wherein the irradiation is carried out by excimer laser or YAG laser.

9. A method for forming a semiconductor material comprising the steps of:

forming on a surface a film comprising a noncrystal semiconductor and containing therein carbon, nitrogen and oxygen at a concentration of 5×10^{19} atoms$\cdot cm^{-3}$ or less respectively;

forming a protective film comprising a material selected from the group consisting of silicon oxide, silicon nitride and silicon carbide on said film comprising a noncrystal semiconductor; and

melting said noncrystal semiconductor by irradiating said film comprising a noncrystal semiconductor with a laser beam or a light equivalent to the laser beam through said protective film to crystallize the noncrystal semiconductor into a crystallized semiconductor having a peak of intensity of scattered light at a Raman shift of 512 cm^{-1} or more in Raman spectroscopy thereof.

10. The method of claim 9 wherein said protective film transmits

said laser beam or said light.

11. The method of claim 10 wherein said protective film comprises a material expressed by a formula $SiN_xO_yC_z$ where $0 \leq x < 4/3$, $0 \leq y \leq 2$, $0 \leq z \leq 1$, and $0 < 3x+2y+4z \leq 4$.

12. The method of claim 9 wherein said light comprises an excimer laser pulse.

13. The method of claim 9 wherein the irradiation is carried out by excimer laser or YAG laser.

14. The method of claim 9 further comprising the step of subjecting said film comprising a noncrystal semiconductor to thermal treatment in an atmosphere comprising hydrogen after said melting step.

15. A thin film transistor comprising an activation layer produced by a process comprising the steps of:

forming on a surface a noncrystal semiconductor containing therein carbon, nitrogen and oxygen at a concentration of 5×10^{19} atoms$\cdot$cm^{-3} or less respectively; and

melting said noncrystal semiconductor by irradiating said noncrystal semiconductor with a laser beam or a light equivalent to the laser beam to crystallize said noncrystal semiconductor in said activation layer;

wherein said activation layer comprises the crystallized semiconductor and said crystallized semiconductor has a peak of intensity of scattered light at a Raman shift of 512 cm^{-1} or more in Raman spectroscopy thereof.

16. The thin film transistor of claim 15 wherein said activation

layer includes a channel of said thin film transistor therein.

17. The thin film transistor of claim 15 wherein said light comprises an excimer laser pulse.

18. A thin film transistor comprising an intrinsic or substantially intrinsic semiconductor included in a channel of said thin film transistor, said intrinsic or substantially intrinsic semiconductor being produced by a process comprising the steps of:

forming on a surface an intrinsic or substantially intrinsic noncrystal semiconductor containing therein carbon, nitrogen and oxygen at a concentration of 5 x 10^{19} atoms·cm^{-3} or less respectively;

melting said intrinsic or substantially intrinsic noncrystal semiconductor by irradiating said intrinsic or substantially intrinsic noncrystal semiconductor with a laser beam or a light equivalent to the laser beam to crystallize said noncrystal semiconductor,

wherein the crystallized semiconductor has a peak of intensity of scattered light at a Raman shift of 512 cm^{-1} or more in Raman spectroscopy thereof.

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19. The thin film transistor of claim 18 wherein said light comprises an excimer laser pulse.

20. The thin film transistor of claim 18 wherein the irradiation is carried out by excimer laser ~~or YAG laser~~.

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add J A2

add C1

add D4

add E1

add H9

add B5

add K8

add L4